



## SEQUENCE LISTING

<10> Tao, Tao  
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Collins, Peter L.  
Murphy, Brian R.

<120> CONSTRUCTION AND USE OF RECOMBINANT PARAINFLUENZA VIRUSES EXPRESSING A CHIMERIC GLYCOPROTEIN

<130> 17634-000340US

<140> 09/459,062

<141> 1999-12-10

<150> 09/083,793

<151> 1998-05-22

<150> 60/059,385

<151> 1997-09-19

<150> 60/047,575

<151> 1997-05-23

<160> 57

<170> PatentIn Ver. 2.1

<210> 1

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Flanking sequence of measles HA gene insert for N-P and P-M junctions.

<400> 1

cttaagaata tacaaataag aaaaacttag gattaaagag cg

42

<210> 2

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Flanking sequence of measles HA gene insert for N-P and P-M junctions.

<400> 2  
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36

<210> 3  
<211> 101  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Flanking sequence of measles HA gene insert for HN-L junction.

<400> 3  
aggcctaaaa gggaaatata aaaaacttag gagtaaagtt acgcaatcca actctactca 60  
tataatttag gaggaccgc atagacaaat ccaaattcga g 101

<210> 4  
<211> 79  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Flanking sequence of measles HA gene insert for HN-L junction.

<400> 4  
tcataattaa ccataatatg catcaatcta tctataatac aagtatatga taagtaatca 60  
gcaatcagac aataggcct 79

<210> 5  
<211> 83  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Forward primer for PCR of measles HA gene insert for N-P and P-M junction.

<400> 5  
ttaatcttaa gaatatacaa ataagaaaaa cttaggatta aagagcgatg tcaccacaac 60  
gagaccggat aaatgccttc tac 83

<210> 6  
<211> 67  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Reverse primer  
for PCR of measles HA gene insert for N-P and P-M  
junctions.

<400> 6  
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catcttc 67

<210> 7  
<211> 55  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Forward primer  
for PCR of measles HA gene insert for HN-L  
junction.

<400> 7  
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<210> 8  
<211> 68  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
Reverse/Forward primer for PCR of measles HA gene  
insert for HN-L junction.

<400> 8  
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gtccttcc 68

<210> 9  
<211> 77  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Forward primer  
for PCR of measles HA gene insert for HN-L  
junction.

<400> 9  
cagtcacccg ggaagatgga accaatcgca gatagtcata attaaccata atatgcata 60  
atctatctat aatacaa 77

<210> 10  
<211> 28  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Reverse primer  
for PCR of measles HA gene insert for HN-L  
junction.

<400> 10  
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<210> 11  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
Forward/Reverse primer for PCR of measles HA gene  
insert for HN-L junction.

<400> 11  
cggataaacg cgttctacaa agataacc 28

<210> 12  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Reverse primer  
for PCR of measles HA gene for N-P and M-P  
junctions.

<400> 12  
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25

<210> 13  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Upstream HPIV2  
HN primer.

<400> 13  
gggccatgga agattacagc aat

23

<210> 14  
<211> 25  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Downstream  
HPIV2 HN primer.

<400> 14  
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25

<210> 15  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Upstream HPIV2  
HN primer.

<400> 15  
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31

<210> 16  
<211> 30  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Downstream  
HPIV2 HN primer.  
  
<400> 16  
cccggttcct gattccccga gcacgcttg

30

<210> 17  
<211> 26  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: HPIV1 HN  
primer.  
  
<400> 17  
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26

<210> 18  
<211> 24  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: HPIV1 HN  
primer.  
  
<400> 18  
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24

<210> 19  
<211> 15492  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Sequence of  
pFLC.PIV32, 15492 bp in sense orientation.

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tatttatac attaatgca cgtaggcaag aaaacataac aaaatcagcc ggtggagcta 180  
tcattcctgg acagaaaaat actgtctcta tattcgccct tggaccgaca ataactgatg 240  
ataatgagaa aatgacatta gctcttctat ttctatctca ttcaacttagat aatgagaaac 300  
aacatgcaca aaggcaggg ttcttggtgt ctttattgtc aatggctt gccaatccag 360  
agctctacct aacaacaaat ggaagtaatg cagatgtcaa gtatgtcata tacatgattg 420  
agaaagatct aaaacggcaa aagtatggag gatttgggt taagacgaga gagatgatat 480  
atgaaaagac aactgattgg atatttggaa gtgacctgga ttatgatcag gaaactatgt 540  
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catgtttagg agctcttata atacagatct ggatagttct ggtcaaagct atcaactgta 660  
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tgcaggcagg gctggatttg agcggtgaca cagttggatca gattttgtca atcatgcgg 780  
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atgacctcac aaccatagaa aagaatatac aaattgttgg caactacata agagatgcag 900  
gtctcgcttc attcttcaat acaatcagat atggaatttga gaccagaatg gcagcttga 960  
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(sense).

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<220>  
<223> Description of Artificial Sequence: Primer for  
construction of PIV3-2 chimeric cDNAs, PIV2 F  
(antisense).

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31

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<220>  
<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV2 F (sense).

<400> 22

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<210> 23  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV2 (antisense).

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22

<210> 24  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV2 HN (sense).

<400> 24

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24

<210> 25  
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV2 HN (antisense) .

<400> 25

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24

<210> 26

<211> 28

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV3 F (sense) .

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28

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<210> 28

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV3 HN (sense/antisense) .

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<210> 29

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<212> DNA

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<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV3 HN (sense).

<400> 29

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24

<210> 30

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV2 F (antisense).

<400> 30

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20

<210> 31

<211> 19

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV2 F (sense).

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19

<210> 32

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18

<210> 33  
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<220>  
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26

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<220>  
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<210> 37  
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<223> Description of Artificial Sequence: Primer for  
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<400> 37  
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21

<210> 38  
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<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Primer for  
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(sense) .

<400> 38  
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22

<210> 39  
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<220>  
<223> Description of Artificial Sequence: Primer for construction of PIV3-2 chimeric cDNAs, PIV3 L (antisense).

<400> 39  
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<223> Description of Artificial Sequence: Sequence of pFLC.PIV32TM, 15498 bp in sense orientation.

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of  
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<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
spanning PIV3 F 5' ntr and PIV2 F ectodomain.

<400> 42

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24

<210> 43

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence

spanning PIV2 F ectodomain and PIV3 F transmembrane/cytoplasmic domains.

<400> 43  
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24

<210> 44  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence spanning PIV3 F transmembrane/cytoplasmic domains and PIV3 F 3' ntr.

<400> 44  
acaaacaaat aacatatcta caga

24

<210> 45  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Terminal amino acids of PIV2 F ectodomain.

<400> 45  
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<210> 46  
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<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Terminal amino acids of PIV2 F ectodomain.

<400> 46  
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<220>  
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<400> 47  
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<210> 48  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence spanning PIV3 HN transmembrane/cytoplasmic domains and PIV2 HN ectodomain.

<400> 48  
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<210> 49  
<211> 33  
<212> DNA  
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<220>  
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<400> 49  
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<210> 50  
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<220>  
<223> Description of Artificial Sequence: Terminal amino acids bridging fused PIV3 HN transmembrane/cytoplasmic domains and PIV2 HN ectodomain.

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<210> 51  
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<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 51  
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<210> 52  
<211> 21  
<212> DNA  
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<220>  
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<400> 52  
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<210> 53  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
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<210> 54  
<211> 7  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Terminal amino acids bridging fused PIV2 F ectodomain/transmembrane domain and PIV3 F cytoplasmic domain.

<400> 54  
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<210> 55  
<211> 24  
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<400> 55  
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24

<210> 56  
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<212> DNA  
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<223> Description of Artificial Sequence: Sequence spanning PIV2 HN transmembrane/ectodomains and PIV3 HN 3' ntr.

<400> 56  
gaactaatgc tttaatcata attaaccata

30

<210> 57  
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<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Terminal amino acids bridging fused PIV3 HN cytoplasmic domain and PIV2 HN transmembrane/ectodomains.

<400> 57  
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